

The foliation and female flowers are however very well described, and to complete the description I may add, the male flowers are pedunculated, but the peduncles are shut, and they might be characterized as subsessile. The anthers, like those of the female flowers, are sessile, depressed or flattened above, and dehisce circularly. The ripe fruit is globose, and not furrowed. As I send along with this paper specimens of both the male and female flowers, any of your botanists will be able to correct me at a glance, if I be in error.

Neither Wallich, Wight, nor Griffiths appear to have been at all aware that this species produces gamboge. Dr. Wight, in a recent number of his 'Neilgherry Plants,' says, "Two species of the genus *Garcinia* are known to produce gamboge; most of the others yield a yellow juice, but not gamboge, as it will not mix with water." The species which he has described as producing gamboge, and to which I suppose he refers, are *G. gutta* or *H. cambogioides* (Graham) and *G. pictoria* (Roxburgh). That others may be enabled to judge of the character of the gamboge produced by this tree, I have the pleasure to send specimens of its exudation. In its appearance to the eye, and in its properties as a pigment, I have failed to discover the slightest difference between it and the gamboge of commerce. It serves equally well to colour drawings; the Burmese priests often use it to colour their garments, and the Karens to dye their thread. It is also used by the native doctors in medicine, but I think not extensively. Dr. Lindley, in his new work the 'Vegetable Kingdom,' says, "The best gamboge comes in the form of pipes from Siam, and this is conjectured to be the produce of *Garcinia cochinchinensis*." As *G. elliptica* is spread all over the province of Mergui, is it not probable that it extends into Siam, and that the Siamese gamboge is the produce, a part at least, of this tree?

There are several other species of *Garcinia* indigenous to the Provinces, but I know of no others producing anything resembling gamboge, except *G. Cambogia*; the exudation of which, though it will not dissolve in water, dissolves in spirits of turpentine, and forms a very beautiful yellow varnish for tin and other metallic surfaces.—*Journal of the Asiatic Society of Bengal for July 1847.*

ON THE FOSSIL VEGETATION OF ANTHRACITE COAL.

Mr. J. E. Teschemacher, at the recent meeting of the American Association of Geologists and Naturalists, read a paper on this subject, confining his observations to the remains of vegetation found in the *body* of the coal, apart from that in the accompanying shales. The principal points of the memoir were, that the remains of the larger forms of the coal epoch, as well as of the smaller plants, were abundant in the coal, contrary to the usual opinion. Specimens were exhibited from the interior of the coal, showing the external and internal parts of plants—the vessels, the leaves, the seeds, &c.

Since the meeting, Mr. Teschemacher has continued his investigations, and has communicated in a letter to one of the editors the following results:—

1st. What I considered as vessels were said to be mere marks of sliding of the coal. Prof. Bailey prepared a specimen of this by his method, and told me that if I found vessels there, my proposition was correct. Examined by Agassiz and myself, with his large Oberhauser, it turns out to be *nothing* but a *mass* of perforated vessels, as clear and distinct as if they were recent. M. Agassiz observed, "One moment suffices to remove every doubt on the subject."

2nd. What I considered as fossil seeds were said to be mere peacock-eye coal; the dark carbonaceous centres of these seeds, which I held to be carbonized cellular matter, was thought to be a mere mistake and the seeds imaginary. I have since discovered them with distinct and clear apparently spinous appendages. M. Agassiz thinks the seed a Samara, and I have found sufficient quantity to pick out the carbonaceous matter from the interior with a fine needle—decarbonize it in a clean platina crucible over a spirit-lamp, with every possible precaution to prevent any foreign substance mixing therewith. On examining this with the Oberhauser, 760 diameters, M. Agassiz showed to Dr. Gould and myself the cells as clear and plain as possible; it is a mass of cellular matter, as I stated. You may of course imagine the extreme tenuity of the parietes of cells of seeds when decarbonized, and the difficulty of those less experienced than M. Agassiz in the microscope in managing the subject—he feels quite convinced of their being fossil seeds. The nature of the genus of plants must require further examination.

3rd. The smooth glossy surfaces, which I considered the external parts of large plants rendered smooth by intense pressure, were said to be nothing more than slickensides. My position here is proved much more easily than in the other cases, by specimens passing gradually from the smoother through different degrees of protuberance (all still smooth and polished), until we arrive at the full form of the *Lepidodendron*. Nay more, I have found the parallel lines (channels) which are on the slickensides, also on the perfectly-formed *Lepidodendra*. The correctness of my views here I could prove to the most sceptical.

The discoveries still to be made on this subject are numerous and important; and I doubt not that the investigation of the coal itself will soon solve the doubts hitherto existing in the comparison of the coal fossils with recent plants.

I will merely add, that I have found quite distinctly the impression of the cellular cuticle of some of these plants, which of course cannot be seen in an impression on shale, the grains of the sedimentary matter being as large as the surface of the cells; but on the pasty mass of coal the impression is perfect.—*Silliman's Journal*, November 1847.

A Fact respecting the Habits of Notonecta glauca.

By Prof. FORREST SHEPHERD.

In the evening twilight of a pleasant day in September 1846, Sir George Simpson encamped for the night, on his route from Red River to the head waters of the Mississippi, in the vicinity of latitude 48° north and longitude 95° or 96° west from Greenwich.